

REMARKS

I. Amendment to the Claims

Claims 1, 5-15, 19, 29-35, 51, 52, 54-57, and 59-74 are currently pending, with claims 1, 29, 34, and 35 being independent. Claims 1, 4-15, 19, 29-36, and 50-73 stand rejected.

Claims 1, 5, 6, 9, 29, 30, 34, 35, 54, 59, and 63 have been amended, new claim 74 has been added, and claims 4, 36, 50, 53, and 58 have been canceled without prejudice. Support for the amendments to the claims can be found throughout the specification and in the claims as originally filed. Specifically, support for the amendments to the claims can be found, *inter alia*, in the specification at page 5, paragraph [0014]; page 8, paragraph [0025]; pages 13-14, paragraphs [0048-0050]; pages 16-17, paragraph [0061]; pages 36-37, paragraphs [0127-0128]; page 44, paragraph [0149]; pages 50-51, paragraph [0181]; Tables 2-4; original claims 1-15, 19, 31-33, and 36; and the Figures. Applicants respectfully submit that no new matter has been added by the way of these amendments. Applicants respectfully request entry of the above amendments and consideration of the remarks below.

The Examiner has objected to claim 4 as not depending from a preceding claim. Office Action at page 4. Claim 4 has been canceled, and a similar claim is now presented as new claim 74, which does depend from a preceding claim. Applicants believe the objection is now moot and respectfully request its withdrawal.

Applicants make the present amendments without prejudice and solely in order to expedite allowance of this application. Applicants reserve the right to file applications directed to subject matter removed by way of the present amendments, as well as other matter disclosed in the specification.

II. Rejection under 35 U.S.C. § 112, First Paragraph (Enablement)

The Examiner has rejected claims 1, 4-15, 19, 29-36, and 50-73 under 35 U.S.C. §112, first paragraph, because the specification allegedly does not enable “decreasing an undefined INF- γ [sic: IFN- γ] parameter in a subject having an undefined excess of [IFN- γ] or for increasing an undefined IL-10 parameter in a subject having an undefined IL-10 deficiency by administering to the subject an agonist of an IL-21/IL-21R.” Office Action at pages 4-8.

Applicants respectfully disagree. One of ordinary skill in the art would be able to practice the claimed invention without undue experimentation. The Examiner refers to the IFN- γ parameter as undefined but, as noted previously in prosecution, the specification identifies possible parameters; for example, in paragraph [0014] on page 5, “parameter” (specifically here in reference to IL-10) is defined as “qualitative or quantitative information about IL-10 levels or activity, e.g., IL-10 mRNA or protein levels or activity.” Later in the same paragraph, a “corresponding IFN- γ parameter” is explained. The claim terms related to parameters are more than adequately defined in the specification as filed.

The Examiner appears to be assuming here, and throughout the Office Action, a very low level of experience / knowledge on the part of one of ordinary skill in the art for this case. In fact, one of ordinary skill would not have any trouble understanding the claimed parameters even in the absence of the definitions noted above. It is very common for those of ordinary skill in fields related to the present invention to identify biological substances, e.g., cytokines, related to a condition (e.g., a disorder, state of health, etc.) and readily understand that changes to a related parameter (e.g., protein level, protein activity, mRNA level, etc.) will influence the condition, etc. in either a positive or negative manner, depending on the direction of the change to the parameter. The notion that one of ordinary skill in the art needs the

heightened level of guidance proposed by the Examiner grossly underestimates the abilities of this hypothetical individual.

Further, the Examiner asserts that one of ordinary skill would not know who has an excess of IFN- γ , thereby alleging the claims recite an “undefined subject.” But the specification makes very clear that the “subject” in the claims is to be contrasted with a “normal subject.” That comparison is explicitly recited in the independent method claims 1, 29, 34, and 35, from which all of the remaining claims depend.

The concept of comparing / contrasting a subject having a condition, etc. (or thought to possibly have a condition, etc.), such as a disorder / disease, with a normal subject is extremely familiar to one of ordinary skill. Also, Applicants have addressed this concept numerous times in the specification, for example, in paragraph [0014] on page 5, paragraph [0025] on page 8, and paragraph [0149] on page 44. In addition, the concept of normal in reference to one at least one disease, multiple sclerosis (MS), is addressed in paragraph [0128] on pages 36-37. These concepts are made quite clear to one of ordinary skill in the art. Further, one of ordinary skill would understand the concept of “controls” in the figures, the brief descriptions of the figures, and the examples, to correlate appropriately to the concept of normal (see also paragraphs [0127-0128] on pages 36-37). One of ordinary skill would not require undue experimentation to understand the genus of subjects addressed in the claims, or to practice the claimed invention.

Nonetheless, solely in an effort to expedite prosecution and allowance of the present application, Applicants have amended the four independent claims (claims 1, 29, 34, and 35), from which all remaining claims depend, to include recitations of several parameters (activity of protein, level of protein, and level of mRNA) and one condition (multiple sclerosis).

Therefore, Applicants respectfully submit that this rejection has been overcome or rendered moot and respectfully request reconsideration and withdrawal of this enablement-based rejection.

Applicants further note here that the Examiner mentioned other diseases associated with IL-10 deficiencies that also could be treated with the present invention (e.g., ischemia-reperfusion injury and psoriasis; see Office Action at page 7). The Examiner mentioned that there may be still other diseases associated with IL-10 deficiency that are not specifically mentioned in the specification. However, as noted above, the present claims are directed to multiple sclerosis.

III. Rejection under 35 U.S.C. § 112, First Paragraph (Written Description)

A. *“Possession of Claimed Invention” rejection*

The Examiner rejected claims 1, 4-15, 19, 29-36, and 50-73 under 35 U.S.C. §112, first paragraph, as allegedly failing to comply with the written description requirement. Office Action at pages 8-9. The Examiner asserts that the specification allegedly does not provide an adequate written description of “a genus of IFN- γ parameters, a genus of a subject having an excess of IFN- γ , a genus of IL-10 parameters and a genus of a subject having an IL-10 deficiency.”

As noted above, Applicants consider the claim terms related to parameter to be well defined in the present case. The Examiner’s rejection based on the assertion that the “genus of IFN- γ parameters” and the “genus of IL-10 parameters” are undefined is therefore traversed. One of ordinary skill would understand that Applicants had possession of the claimed invention at least because the terms are adequately defined, as explained in detail above.

The Examiner also rejects the pending claims under the assertion that one of ordinary skill would not reasonably comprehend that Applicants had possession of the claimed

invention because the “genus of a subject having an excess of IFN- γ ” and the “genus of a subject having an IL-10 deficiency” are not adequately described. Again, as explained in detail above, these concepts are not new or foreign to one of ordinary skill in the art. In addition, the specification more-than-adequately addresses what these phrases mean, and further addresses how to identify individuals that would be encompassed as such subjects. Further, one of ordinary skill would know how to identify such subjects through various well-known means, not the least of which is the straightforward means of comparing the subject in question to a normal subject. This is the same technique addressed in the independent claims, and explained in detail in the specification, as noted above. The Examiner again appears to take a dim view of the knowledge and skill of a hypothetical “one of ordinary skill.” In fact, such skilled individual would have no problem appreciating that Applicants had conveyed possession of the claimed invention. The Examiner’s proposed decreased level of skill for the present case undermines the goals noted in MPEP §2163(II)(A)(2):

The analysis of whether the specification complies with the written description requirement calls for the examiner to compare the scope of the claim with the scope of the description to determine whether applicant has demonstrated possession of the claimed invention. Such a review is conducted from the standpoint of one of skill in the art at the time the application was filed (see, e.g., *Wang Labs. v. Toshiba Corp.*, 993 F.2d 858, 865, 26 USPQ2d 1767, 1774 (Fed. Cir. 1993)) and should include a determination of the field of the invention and the level of skill and knowledge in the art. Generally, there is an inverse correlation between the level of skill and knowledge in the art and the specificity of disclosure necessary to satisfy the written description requirement. Information which is well known in the art need not be described in detail in the specification. See, e.g., *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379-80, 231 USPQ 81, 90 (Fed. Cir. 1986).

Nonetheless, solely in an effort to expedite prosecution and allowance of the present application, Applicants have amended independent claims 1, 29, 34, and 35, from which all remaining claims depend, regarding multiple sclerosis and the noted parameters, as explained

above. Therefore, Applicants respectfully submit that this rejection has been overcome or rendered moot and respectfully request reconsideration and withdrawal of this written description-based rejection.

B. *“New Matter” rejection*

The Examiner rejected claims 1, 4-15, 19, and 29-33 as allegedly presenting new matter related to two phrases reciting excesses of IFN- γ . Office Action at pages 11-12. Applicants disagree with the Examiner’s assessment of the phrases, and traverse.

One of ordinary skill in the art would instantly understand that the inventors had adequately described and were in possession of an invention related to decreasing an excessive amount or level of an IFN- γ parameter by administering an IL-21/IL-21R agonist. The Examiner appears to be rejecting the claims as allegedly indefinite because the word “excess” does not appear in the specification. But the word and the related phrases in question are instantly understood and appreciated by one of ordinary skill. For example, one of ordinary skill reading paragraph [0014] on page 5 of the specification would understand the phrase “an excess of IFN- γ ” (and the concept of decreasing that excess) in light of the following: “a decrease in an IFN γ parameter to a value in the range of normal can indicate [] a desired therapeutic effect” (emphasis added). Obviously, if the IFN- γ parameter is being decreased into a range of normal values, the initial value was in excess of the range of normal values. Applicants assert that the phrases in question are supported by the basic knowledge of one of ordinary skill in the art; the exemplary language from paragraph [0014] (above) merely provides additional support.

Applicants respectfully submit that this rejection has been adequately addressed by the present argument, and that the rejection has been overcome, and respectfully request reconsideration and withdrawal of this written description-based rejection.

IV. Rejection Under 35 U.S.C. § 112, Second Paragraph (Indefiniteness)

The Examiner rejected claims 1, 4-15, 19, 29-35, 51, 52, 54-57, and 59-73 as allegedly being indefinite. Office Action at pages 10-11. The Examiner asserts that the specification only describes examples to assay or evaluate IL-10 activity but fails to limit the specific numbers or parameters related to IL-10 and IFN- γ . *Id.* at p. 10.

Applicants respectfully disagree with the Examiner's assertion that the metes and bounds of claim terms reciting parameter(s) are indefinite. However, in light of the facts that (1) the Examiner did not reject claims 53 and 58, which recite particular parameters (i.e., protein levels and mRNA levels), and (2) Applicants have amended the four independent claims to recite that the IL-10 parameter or the IFN- γ parameter comprises quantitative information about the level of protein, the level of mRNA, and/or the activity of protein, Applicants respectfully submit that the Examiner's concerns related to indefiniteness have been addressed and overcome or rendered moot. Therefore, Applicants respectfully request reconsideration and withdrawal of this indefiniteness-based rejection.

CONCLUSION

In view of the above amendments and remarks, Applicants submit that all of the Examiner's concerns and rejections have been addressed and overcome. Accordingly, reconsideration and allowance of all claims are earnestly solicited.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

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